

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

1. (Currently amended) A method of transmission of data messages between a plurality of stations interconnected by a bus line, wherein each said message ~~includes~~ comprises a frame portion representing content and priority information of the data message and a data portion representing data to be transmitted, the method comprising the steps of:
causing at least one of said plurality of stations to transmit a data message on to the bus line such that said frame portion thereof is transmitted at a first data transmission rate, and the data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate[[,]];
receiving information relating to signal quality on said bus line;
determining whether to adjust the first data transmission rate in dependence on the information relating to signal quality on the bus line;
determining whether to adjust the second data transmission rate in dependence on the information relating to signal quality on the bus line; and
adjusting at least one of said first data transmission rate ~~and~~ or said second data transmission rate in dependence on ~~a signal quality determined for~~

~~transmission on said bus line~~ said determinations.

2. (Previously presented) A method according to claim 1, further comprising the step of causing at least one further station to transmit onto the bus line, an acknowledgement signal indicating receipt of a said data message.

3. (Previously presented) A method according to claim 2, further comprising the step of causing at least one said station to transmit a further said data message in response to transmission of a said acknowledgement signal.

4. (Previously presented) A method according to claim 2, further comprising the step of retransmitting a said message if no acknowledgment signal is received.

5. (Original) A method according to claim 4, further comprising the step of generating an error message prior to re-transmission of said message.

6. (Currently amended) A method according to claim 5, ~~further comprising the step of adjusting at least one of~~ wherein determining whether to adjust said first data transmission rate and said second data transmission rate is further made in dependence on the frequency of generation of said error messages.

7. (Currently amended) A method according to claim 1, further comprising the step of determining ~~the~~ a frequency of received data messages comprising an error, wherein the frequency of received data messages comprising an error comprises, at least in part, the information relating to signal quality on said bus line; and adjusting at least one of wherein determining whether to adjust said first data transmission rate and said second data transmission rate is made is made, at least in part, in dependence on the frequency of received data messages comprising an error.

8. (Currently amended) A method according to claim 7, further comprising determining received signal strength for a data message, wherein said received signal strength comprises, at least in part, the information relating to signal quality on said bus line; and ~~adjusting at least one of wherein determining whether to adjust~~ said first data transmission rate and said second data transmission rate is made, at least in part, in dependence on said received signal strength determination in combination with said frequency of received data messages comprising an error.

9. (Previously presented) A method according to claim 1, wherein said frame portion contains information representing a station to which the message is directed.

10. (Previously presented) A method according to claim 1, wherein the frame portion contains information representing the size of the corresponding data portion.

11. (Previously presented) A method according to claim 1, wherein the second data transmission rate is an integral multiple of said first data transmission rate.

12. (Previously presented) A method according to claim 1 wherein the frame portion contains information representing the transmit node identification.

13. (Currently amended) Apparatus for transmitting data messages between a plurality of stations interconnected by a bus line, each of said data messages including a frame portion representing content and priority information of the data message and a data portion representing data to be transmitted, the apparatus comprising:

means for transmitting a data message on said bus line such that said frame portion thereof is transmitted at a first data transmission rate, and said data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate; and

means for receiving information relating to signal quality on said bus line;

means for determining whether to adjust the first data transmission rate in dependence on the information relating to signal quality on the bus line;

means for determining whether to adjust the second data transmission rate in dependence on the information relating to signal quality on the bus line; and

means for adjusting at least one of said first data transmission rate ~~and~~ or said second data transmission rate in dependence on ~~a signal quality determined for~~

~~transmission on said bus line~~ said determinations.

14. (Previously presented) Apparatus according to claim 13, further comprising means responsive to receiving a data message to transmit an acknowledgement signal on said bus line.

15. (Previously presented) Apparatus according to claim 13, further comprising means responsive to an acknowledgment signal to transmit a further said data message.

16. (Previously presented) Apparatus according to claim 14, further comprising means for retransmitting a message if no acknowledgment signal is received.

17. (Original) Apparatus according to claim 16, further comprising means for generating an error message prior to re-transmission of said message.

18. (Currently amended) Apparatus according to claim 17, ~~further comprising~~ wherein said means for adjusting at least one of for determining whether to adjust said first data transmission rate and said second data transmission rate make said determinations in dependence on ~~the a~~ a frequency of generation of said error messages, wherein said frequency of generation of said error messages comprises, at least in part, information relating to the signal quality on said bus line.

19. (Currently amended) Apparatus according to claim 13, further comprising means for determining whether a data message comprises an error, wherein information concerning whether a data message comprises an error comprises, at least in part, information relating to signal quality on the bus line.

20. (Original) Apparatus according to claim 19, said means for determining whether a data message comprises an error including a Cyclic Redundancy Checker.

21. (Original) Apparatus according to claim 20, further comprising an error register for holding a value indicative of the level of received messages comprising an error, and means for decrementing said value for a received data message determined not to comprise an error and incrementing said value for a received data message determined to comprise an error.

22. (Currently amended) Apparatus according to claim 13, further comprising a received signal strength measurement unit for measuring signal strength of a received data message, wherein said signal strength of a received data message comprises, at least in part, information relating to signal quality on said bus line.

23. (Original) Apparatus according to claim 22, further comprising a signal strength register for holding a value representative of received signal strength.

24. (Currently amended) Apparatus according to claim 21, ~~further comprising~~
wherein said means for determining whether to adjust said first and second data transmission
rates each further comprise processing means for ~~adjusting at least one of~~ determining
whether to adjust said first data transmission rate and said second data transmission rate in
dependence on the content of said error register.

25. (Currently amended) Apparatus according to claim 23, ~~further comprising~~
wherein said means for determining whether to adjust said first and second data transmission
rates further comprise processing means for ~~adjusting at least one of~~ determining whether to
adjust said first data transmission rate and said second data transmission rate in dependence
on the content of said signal strength register.

26. (Currently amended) Apparatus according to claim 13, further comprising:
means for determining whether a data message comprises an error;
an error register for holding a value indicative of the level of received messages
comprising an error;
a received signal strength measurement unit for measuring signal strength of a
received data message;
a signal strength register for holding a value representative of received signal
strength; and
processing means configured to determine whether to adjust said first data

transmission rate and said second data transmission rate in dependence on the content of said signal strength register.

27. (Previously presented) Apparatus according to claim 13, wherein said frame portion contains information representing a station to which the message is directed.

28. (Previously presented) Apparatus according to claim 13, wherein the frame portion contains information representing the size of a corresponding data portion.

29. (Previously presented) Apparatus according to claim 13, wherein the second data transmission rate is an integral multiple of said first transmission rate.

30. (Previously presented) Apparatus according to claim 13, wherein the frame portion contains information regarding the transmit node identification.

31. (Cancelled)

32. (Cancelled)

33. (Cancelled)

34. (Currently amended) An article of manufacture comprising:

a computer useable medium having a computer readable code means tangibly embodied in said medium for transmitting data messages between a plurality of stations interconnected by a bus line, wherein each message includes a frame portion representing content and priority information of the data message and a data portion representing data to be transmitted, the computer readable program code in said article of manufacture comprising:

computer readable program code means for causing the computer to cause at least one of said plurality of stations to transmit a data message onto the bus line such that said frame portion thereof is transmitted at a first transmission rate, and the data portion thereof is transmitted at a first data transmission rate, and the data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate; and

computer readable program code means for causing the computer to determine whether to adjust ~~at least one of~~ said first transmission rate and said second transmission rate in dependence on a signal quality determined for transmission on said bus line.

35. (Currently amended) The article of manufacture of claim 34 where the computer useable medium comprises a magnetic storage medium, an optical storage medium, or solid state storage medium ~~or communications carrier medium~~.

36. (Currently amended) A method of transmission of data messages between a plurality of stations interconnected by a bus line, wherein each said data message ~~includes~~ comprises a frame portion representing destination identification information of the data message and a data portion representing data to be transmitted, the method comprising the steps of:

causing at least one of said plurality of stations to transmit a data message onto the bus link such that said frame portion thereof is transmitted at a first data transmission rate and the data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate~~[[,]]~~; ~~and~~
~~adjusting at least one of~~ determining whether to adjust said first data transmission rate ~~and said second data transmission rate~~ in dependence on a signal quality determined for transmission on said bus line;
determining whether to adjust said second data transmission rate in dependence on the signal quality determined on said bus line; and
adjusting at least one of said first or second data transmission rates in dependence on said determinations.

37. (Previously presented) A method according to claim 36 wherein each said frame portion further represents transmitter identification information.

38. (Currently amended) Apparatus for transmitting data messages between a

plurality of stations interconnected by a bus line, each of said data messages including a frame portion representing destination identification information of the data message and a data portion representing data to be transmitted, the apparatus comprising:

means for transmitting a data message on said bus line such that said frame portion thereof is transmitted at a first data transmission rate, and said data portion thereof is transmitted at a second data transmission rate not less than said first data transmission rate; ~~and~~

means for ~~adjusting at least one of~~ determining whether to adjust said first data transmission rate ~~and said second data transmission rate~~ in dependence on a signal quality determined for transmission on said bus line; ~~and~~

means for determining whether to adjust said second data transmission rate in dependence on the signal quality determined for transmission on said bus line.

39. (Previously presented) Apparatus according to claim 38 wherein said means for transmitting a data message is operable to transmit a data message such that said frame portion thereof further represents transmitted identification information.